

LNG Assessment Methodology

RIM LNG Daily assessment follows as below.

(Assessment Window)

From 17 hours Tokyo time of the previous business day and to 17 hours Tokyo time of the designated assessment day.

(Assessment Method)

RIM assesses market prices by taking dealt deals reported and bids/offers indicated during the above time window and other factors such as supply/demand condition and prioritizing the most updated deals and bids/offers.

1.Northeast Asia (DES) *"Delivery period to be assessed" change on May 16, 2012

(Cargoes to be assessed)

Prices are based on values of cargoes to be discharged in Japan, South Korea, Taiwan, and China for the designated delivery period.

(Delivery period to be assessed)

Three half months or 45-60 days, 61-75 days, and 76-90 days ahead of the current business day.

(Volume)

RIM assesses the price of a cargo containing around 60,000 tons in the conventional 135,000-cubic meters LNG tanker. RIM also takes prices of cargoes loaded into the relatively large Q-Flex and Q-Max, and relatively small vessels into account.

(RIM North Asia Index)

RIM announces a monthly cumulative average price of the above three delivery periods, so called "RIM North Asia Index". For instance, RIM announces the average from 1st to 20th on 20th of the month.

○RIM Northeast Asia Forward (DES) *" Newly starts in September 2012

(Cargoes to be assessed)

Prices are based on values of cargoes to be discharged in Japan, South Korea, Taiwan, and China for the designated delivery period. RIM estimates price differentials between forward months based on the forward curves of prices including ICE Brent crude oil and NBP futures as well as spot cargo supply/demand condition from time to time.

(Delivery period to be assessed)

Total six months including one month 90-105 days ahead of the current business day.

(Volume)

The same as above.

○ RIM Northeast Asia Seasonal Index *^u Newly starts in September 2012

RIM estimates the average price for each season based on the Northeast Asia Forward assessment for six months. Spring, summer, autumn and winter seasons are defined as follows. RIM announces the average assessment of the prices of cargoes delivered in each season.

Season	Periods when assessment appears in the report
Spring (April - June)	September 16- March 15
Summer (July - September)	December 16- June 15
Autumn (October – December)	March 16- September 15
Winter (January – March)	June 16- December 15

2. Middle East (FOB)

(Cargoes to be assessed)

Prices are based on values of cargoes to be loaded in Abu Dhabi, Qatar, Oman, and Yemen for the designated loading period.

(Loading period to be assessed)

Three half months or 30-45 days, 46-60 days, and 61-75 days ahead of the current business day.

3. Middle East (DES) on January 5, 2012 and beyond

(Cargoes to be assessed)

Prices are based on values of cargoes to be discharged in Kuwait and Dubai for the designated delivery period. RIM also considers values of cargoes to be delivered at ports other than the above countries in the Middle East.

(Delivery period to be assessed)

Three half months or 30-45 days, 46-60 days, and 61-75 days ahead of the current business day.

(Volume)

The same as for FOB Middle East.

4. India (DES) on January 5, 2012 and beyond

(Cargoes to be assessed)

Prices are based on values of cargoes to be discharged in India for the designated delivery period.

(Delivery period and volume)

The same as for FOB Middle East.

5. DES Europe (DES)

* “delivery period” changed on May 16, 2012

* changed from FOB Atlantic Basin to DES Europe (June 16, 2011)

(Cargoes to be assessed)

Prices are based on values of cargoes to be delivered to Britain, France, Belgium, Spain and Portugal for the designated delivery window. RIM also considers values of cargoes to be delivered at ports other than the above countries in Europe.

(Fixed and Market-linked price assessment)

RIM assesses DES Europe prices based on fixed price discussion as well as the premium/discount levels to the British NBP (National Balancing Point) futures. In the case of the latter, RIM assesses the fixed price by adjusting a premium or discount from the previous business day's NBP.

(Delivery period and volume)

Three half months or 15-30 days, 31-45 days, and 46-60 days ahead of the current business day. RIM assessed cargoes to be delivered the above areas, mentioned in the “cargoes to be assessed”.

6. Freight Market

(Freight to be assessed)

RIM assesses spot freight rates for Middle East-Northeast Asia, Atlantic-Northeast Asia, and Middle East-Europe on conventional size 135,000-cubic meters LNG tanker. RIM also considers freight rates of Q-Flex, Q-Max, and relatively small vessels.

RIM sets voyage days as follows.

- (a) 30 days for a Middle East-Northeast Asia route
- (b) 54 days for an Atlantic-Northeast Asia route
- (c) 22 days for a Middle East-Europe route

RIM sets the loading as well discharge ports as follows.

- (a) the Middle East = Abu Dhabi, Qatar, Oman, and Yemen
- (b) Northeast Asia = Japan, South Korea, Taiwan, and China
- (c) Europe = Britain, France, Spain, Belgium, and Portugal
- (d) the Atlantic = Trinidad and Tobago, Nigeria, and Equatorial Guinea

(Factors that include in freight assessment)

RIM considers spot chartering rate, fuel cost, boil off, and port charge at the loading and discharge ports to determine freight rates. In case of a Middle East-Europe route, RIM includes a Suez Canal charge.

(A) Spot freight rates on major routes in an mmBtu term

RIM assesses spot freight rates for Middle East-Northeast Asia, Atlantic-Northeast Asia, and Middle East-Europe on conventional size 135,000-cubic meters LNG tanker. RIM also considers freight rates of Q-Flex, Q-Max, and relatively small vessels.

RIM sets voyage days as follows.

- (a) 30 days for a Middle East-Northeast Asia route
- (b) 54 days for an Atlantic-Northeast Asia route
- (c) 22 days for a Middle East-Europe route

RIM sets the loading as well discharge ports as follows.

- (a) the Middle East = Abu Dhabi, Qatar, Oman, and Yemen
- (b) Northeast Asia = Japan, South Korea, Taiwan, and China
- (c) Europe = Britain, France, Spain, Belgium, and Portugal
- (d) the Atlantic = Trinidad and Tobago, Nigeria, and Equatorial Guinea

(Factors that include in freight assessment)

RIM considers spot chartering rate, fuel cost, boil off, and port charge at the loading and discharge ports to determine freight rates. In case of a Middle East-Europe route, RIM includes a Suez Canal charge.

(B) Spot daily freight rates in absolute values on November 1 beyond

RIM assesses spot freight chartering rates per day in an absolute US dollar term. RIM assesses rates on

- (a) Conventional 135,000 to 150,000-cubic meters LNG tankers
- (b) 160,000 to 170,000-cubic meters LNG tankers with cost-efficient engine.

RIM also considers freight rates of Q-Flex, Q-Max, and relatively small vessels. Freight rates include fuel cost and boil off.

(Bunker market for fuel of tankers) on May 16, 2012 and beyond

The assessment of 380cst fuel oil at Tokyo Bay, Singapore and Rotterdam on the previous business day will be shown on the report.

4.JCC Price (Japan Crude Cocktail Price)

--- RIM forecasts the JCC price using Dubai crude as a base. The import prices of other crude are determined based on their differential to Dubai crude.

--- The JCC price forecast includes freight and insurance.